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Applicant: Carlo Amalfitano
Application No.: 09/778,478**REMARKS/ARGUMENTS**

After the foregoing Amendments, Claims 1 and 3-24 are currently pending in this application. Claims 1, 4, 11, and 18 have been amended to more distinctly claim the present invention. Applicant submits that no new matter has been introduced into the application by these amendments.

Claim Rejections - 35 USC §103

Claims 4-24 stand rejected under 35 USC §103 as being unpatentable over U.S. Patent No. 6,324,184 to Hou et al. (hereafter "Hou") in view of U.S. Patent No. 6,473,793 to Dillon et al. (hereafter "Dillon.") Claims 1 and 3 stand rejected under 35 USC §103 as being unpatentable over Hou in view of Dillon and U.S. Patent No. 6,101,176 to Honkasalo (hereafter "Honkasalo.")

Hou discloses a method of dynamic bandwidth allocation applicable to the transmission of upstream messages in a hybrid fiber coaxial network. Hou is primarily directed at dynamically allocating bandwidth to subscribers of the network by the central controller according to: overall bandwidth, number of subscribers and amount of bandwidth used by each subscriber. However the system operates on a strict priority system that allocates a certain number of slots depending on overall usage and availability. Therefore the highest priority get the

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greatest number of slots and the lowest get the least number of slots. Therefore, if enough high priority users are attempting access at a given time, lowest priority users would essentially be largely ignored until their priority changed from non-use or the high priority users dropped in number. Additionally the specification and claims of the Hou patent are directed at a wired system, no disclosure is made on how to apply the invention to a wireless system. The claimed invention, however, operates in a distinct manner.

The claimed invention, a scheme for assigning priority levels based on fairness in a wireless system, offers significantly different challenges than those presented in a wired system, and the present application is directed at a solution to such challenges. In a wired system, there are a known number of lines available to users and the bandwidth can be distributed among the users who are stationary and always online. In a wireless system, however, users may log on and log off and the number of users affiliated with a particular cell may swell during high traffic hours when a particular geographic location is crowded. The present invention seeks to dynamically modify the grade of service based on the number of users in a particular cell and the amount of bandwidth those users are requiring. During high usage periods when bandwidth becomes limited, users would have their priority level raised or increased based on historical resource demands or particularly resource intensive continuous resource demands.

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In claim 1 of Applicant's invention, the system determines when the demand for resources of a base station exceeds a predetermined threshold and only when this threshold is exceeded does the prioritization of users need to occur. In rejecting the claims, the Examiner cites Hou noting that data bandwidth is allocating according to "type of service." "Types of service" as disclosed in Hou focuses on the different available subscription plans available to users paying different rates. This fails to disclose dynamically adjusting based on fairness. Hou further discusses a "maximum bandwidth imposed on the user" (column 11, lines 46-47). The claimed invention does not set a maximum bandwidth, to do so would be to effectively eliminate a user's connection as soon as the maximum is reached. Applicant's invention instead compares the usage of the user in reference to other users and assigns a priority, there is no "ceiling" or "maximum" set, but rather a priority based on the usage of the particular user in comparison with other users in the cell. Hou actually teaches away from the priority system in the section cited by the Examiner. Hou discusses cutting off a user altogether or taking away bandwidth, not assigning users priorities. Hou states that lower priority users are entitled to greater channels, users with a higher priority would effectively always shut out users with a lower priority. The present invention reserves bandwidth for the users at the lowest priority levels and creates a lowest priority queue to allow at least

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some access for users with the lowest priority, Hou is silent in regard to reserving bandwidth for the lowest priority, the claims are therefore novel and patentable.

The Examiner additionally cites Dillon as an example of changing the priority rate based on average data throughput; however Dillon fails to disclose the step of determining the current bandwidth demands in increasing or decreasing resources instantaneously based on those demands. Dillon relates to a method and apparatus for selectively allocating and enforcing bandwidth usage requirements on network users. Dillon relies on identifying historically high data throughput users and "throttling" their services. Dillon does not however assign a priority level to users. The claimed invention improves on the cited art by lowering the priority of high volume users, not throttling them. Therefore if adequate system resources are available, a high throughput user would not be affected. Only when resources become limited and higher priority users are attempting access would the system effectively limit access. Dillon fails to disclose the use of priority among users.

Hou teaches dynamic bandwidth allocation in for a wired coaxial network. Dillon teaches throttling high throughput users in satellite systems. Neither reference teaches a grade of service and fairness control using priority based system for a wireless network. Applicant respectfully submits that it would therefore be improper to use hindsight and combine the references in order to reject the claims.

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Claim(s) 3, 5-10, 12-17, and 19-24 are dependent upon claims 1, 4, 11, and 18, which the Applicant believes are allowable over the cited prior art of record for the same reasons provided above.

Based on the arguments presented above and the amendments to the claims, withdrawal of the 35 USC §103 rejections is respectfully requested.

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If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephone interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing amendment and remarks, Applicants respectfully submit that the present application, including claims 1 and 3-24, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

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